

THE HEALING POWER OF FULL-SPECTRUM LIGHT

*Good health can
be maintained
and many disease
conditions
alleviated with
adequate
exposure to full-
spectrum light.*

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[Editor's Note: This article refers to several research studies involving animals. We wish to advise that NEXUS does not condone animal experimentation or vivisection.]

ULTRAVIOLET LIGHT: MYTHS AND FACTS

America has a phobia, an irrational fear, about ultraviolet (UV) light. In a new science fad, unwise practices are being urged on us. The resulting sickness and misbehaviour will mystify yet enrich physicians, psychiatrists, dentists and criminal specialists as well as pharmaceutical drug companies.

In too many scientific and medical fields, for a lot of researchers the truth is defined only in relationship to the next grant, peer pressure and the fight to further an entrenched view. This essentially political process goes on despite any—in this case very strong—evidence to the contrary.¹ Much "science" research is known to be fraudulent.^{2,3} Such a flow of funded research almost exclusively in one direction is characteristic of potentially dangerous science fads. Almost all "scientists" are out to prove something so as to continue their careers; to them, finding the truth is only secondary.

UV intensity is now forecast in population centres daily. The US Environmental Protection Agency (EPA) suggests that when outdoors we should "protect ourselves against ultraviolet light whenever we can see our shadow". And many physicians give their patients the same warning. This is *terrible* advice. If man were a machine, a doctor could repair or replace one part without worrying about the rest of the contraption. Man is no machine, but more like a web or hologram. Every organ and every part affects all the other parts; in fact, cells in every part communicate with all the other parts.⁴

As a result of the EPA's kind of advice, which is based on junk science, the use of sunglasses is epidemic; we hide behind stylish darkened car windows, we slather our skin with sunscreen for even brief sun exposure. People who engage in these practices are ruining their disposition⁵ and health.

The phobia arose after investigators anaesthetised animals, propped their eyes open and shined intense UV light into them; this damaged their retinas. Excessive exposure to one kind of ultraviolet (shorter-wave, germicidal UVC) can damage tissue. But the EPA makes the ridiculous leap from that truth to the conclusion that we should avoid *all* UV. UVC is not present increasingly in sunlight; a purported thinning of the protective ozone layer has been debunked (see below). UVC is found in tanning salons and halogen lamps.⁶ In fact, the trace amounts of UV radiation in natural daylight are required for physical and mental health, civilised behaviour, muscle strength, energy and learning.⁷ Sunlight, in moderation, improves immunity and stimulates our metabolism while decreasing food craving, and increases our intelligence.

• Ozone Hole Danger Disproved

The following passages and references are from Richard Hobday's book, *The Healing Sun: Sunlight and Health in the 21st Century*.⁸

"There have been no increases in skin cancer, eye diseases, immune system disorders or environmental damage which can be attributed to an increase in ultraviolet radiation. The largest South American city close to the Antarctic ozone hole is Punta Arenas in southern Chile. Despite reports to the contrary, there have been no ozone-related health problems at Punta Arenas, and measurements of ultraviolet radiation show that any increases are too small to have any appreciable effect."⁹

"A paper published in 1998 by the European Science and Environmental Forum challenges the consensus view on ozone depletion, and argues that predictions made by the scientific establishment and the media have been ill-founded.^[10] If this is the case, and the hole in the ozone layer is, after all, a temporary thinning of the upper atmosphere in the early spring, then there is no reason to fear that people will develop skin cancer because ultraviolet radiation has become more dangerous.

"There is certainly no evidence to support the widely held view that the increase in malignant melanoma in recent years is in some way linked to ozone depletion. The trend predates the issue of ozone loss, which may have been going on for some time before it was noticed. A paper published in the *British Journal of Cancer* shows that from 1957 to 1984 the incidence of malignant melanoma in Norway increased by 350 per cent for men and 440 per cent for women. During the same period there was no change in ozone levels over Norway, nor any significant change in annual exposure to ultraviolet radiation from the Sun.^[11] Scare stories, such as the one about sheep in Chile developing cataracts because of increased ultraviolet radiation, are not supported in the scientific literature. The sheep in question were later found to have had an infectious disease, and sunlight was not implicated.^[12, 13]

"What is clear, however, is that there is a great deal of ill-informed comment on the subject of ozone depletion and, for that matter, sunbathing. Should depletion of the ozone layer ever become a cause for real concern, then some people might develop cancer who might not have, had there been no depletion, but until this happens there is much more to be gained from investigating the real causes of skin cancer and encouraging safe sunbathing than in being preoccupied with the state of the Earth's upper atmosphere and blaming everything on the Sun. Diet and lifestyle play a far more significant part in the genesis of cancer than is currently recognised. The same can also be said about another condition that is supposed to be on the increase because of ozone depletion—that of senile cataract."

Note that even low exposure to UVB significantly increases the risk of cataracts,¹⁴ but only with the consumption of a Western junk food diet rich in unsaturated fats and their oxidised products.^{15, 16} Those (including myself) who consume a more sensible diet, and supplement it with vitamins C and E, do not get cataracts even from lengthy sun exposure.^{17, 18}

PHOTOBIOLOGY

Starting from a high-school hobby of time-lapse photography, the late John N. Ott, DScHon,¹⁹ founded the new science of photobiology. He was active into his tenth decade.

Dr Ott's last book, one of many publications, is *Light, Radiation and You: How to Stay Healthy* (1990).²⁰ In it he wrote: "Mankind adapted to the full range of the solar spectrum, and artificial distortions of that spectrum—malillumination, a condition analogous to malnutrition—may have biologic effects." In an interview published in 1991, he noted: "There are neurochemical channels from the retina to the pineal and pituitary glands, the

master glands of the whole endocrine system that controls the production and release of hormones. This regulates your body chemistry and its growth, all organs of your body, including your brain, and how they function."²¹

The critical reader will ask: where are the controlled, scientific tests supporting Dr Ott's statements? The answer to that question is: who can make money promoting sunlight? Think about it.

I. Ultraviolet Deprivation Health Effects

First, let's consider the health effects of ultraviolet deprivation.

• Indoor Lighting and Melanoma

Malignant melanoma is often alarmingly but wrongly blamed on sun exposure. The dangerous kind, called skin cancer, is ultimately fatal if not corrected. A study by the US Navy found the most melanoma in people who worked indoors all the time. Those who worked both outdoors and indoors some of the time had the lowest incidence. Also, most melanomas appeared on parts of the body that are seldom exposed to sunlight.²³ The inference is that both very high and very low exposures to UV light can be harmful—and moderate exposure is healthful.²⁴

• Sunscreens and Melanoma

Sunscreens block out only UVA and UVB, which we all need in trace amounts, but not the potentially dangerous, germicidal UVC. No commercial sunscreens have been proved safe.²⁵ Their chemicals penetrate the skin into the circulation and add to the burden of toxins to be detoxified.²⁶ Commercial sunscreens increase the risk of melanoma by causing mutations when the cells' chromosomes interact with the chemicals and the light.²⁷ Natural sunscreens, as well as commercial ones, curtail needed uptake of vitamin D3 from UVB, increasing the risk of

the bone-thinning disease osteoporosis.

Moreover, Lita Lee, PhD, notes: "Mounting evidence indicates that many of them [sunscreens] contain carcinogens and that the rise of skin cancers parallels the increase in sunscreen usage. The only sunscreen I recommend is coconut oil, although, believe me, you *cannot* slather this oil on your skin and bake in the sun all day. Adding a little iodine to the coconut oil for the first week of summer gives added protection; however, do not use the iodine for more than a week, as continued use will inhibit your thyroid function. In my opinion, the only other safe (non-carcinogenic) sunscreen would be one containing titanium dioxide."²⁸

• Fluorescent Lighting and Melanoma

A study published in the prestigious medical journal *Lancet* and a Russian study found that *fluorescent* light rather than sunlight promotes melanoma, proportionately to the time of exposure.^{29, 30} In the *Lancet* study, among a sample of nearly 900 women, those who worked indoors under fluorescent lighting had 2.1 times higher melanoma risk (95% confidence interval, CI, 1.32 to 3.32) than others. Among women exposed for 20 years or more, the relative risk (RR) was 2.6 (95% CI, 1.2 to 5.9). Relative risks were lower in women who had been most heavily exposed to sunlight,

Two hours of bright light in the evening can sometimes cure symptoms such as weight gain, depression, carbohydrate craving, social withdrawal, fatigue and irritability.²²

both playing outdoors as children and sunbathing as adults. In a smaller sample of men, the RR for fluorescent lights with 10 or more years' exposure was 4.4; and for those who had spent the least time in the sun while children, the RR was 7.3.

And so we see that lengthy exposure to full-spectrum sunlight, including trace UV, partially "immunised" both men and women against later development of melanoma. These exposures had taken place in the 1960s and 1970s, before the supposed thinning of the protective ozone layer far above us. But as we saw earlier, UV penetration of the atmosphere has not increased.^{31,32}

All this thoroughly explodes the claim that sun exposure causes malignant melanoma.

In the 19 years since publication of Beral's carefully researched article in the *Lancet*, no one has refuted the finding. But many ignore it and could make more money if the article and its information would simply go away.

Why do fluorescent lights cause melanoma? "Emissions from such light extend into the potentially carcinogenic range."³³

Dr Ott found that, specifically, the cathodes located at the ends of the light tubes emit X-rays and other electromagnetic pollution. Plants living under the central portion of long fluorescent light tubes grow normally; but when placed close to the ends of the tubes, their growth is abnormal and stunted. Laboratory animals placed in a cage close to the ends of these light tubes become aggressive and cannibalistic.

Dr Ott also found that the light from fluorescent tubes, as well as TV sets and computer terminals, causes red blood cells to clump together after prolonged exposure. This reduces alertness, promotes a tired feeling and increases the risk of heart attack and stroke.³⁴ But when the ends of the light tubes are shielded with lead and traces of UV are added to the light, plants and animals under them grow and function normally.³⁵ And so wrapping the ends of fluorescent light tubes with lead tape, says Dr Ott, is fully as important as full-spectrum light itself.³⁶

Melanoma can also result from excessive exposure to sunlamps;³⁷ their rays and those from bright halogen lights include some of the dangerous UVC.³⁸ If users of sunlamps consume a junk diet, their risk of melanoma will be increased. Halogen lamps are also a serious fire hazard if they fall over or if inflammable material touches the extremely hot bulb.^{39, [40]}

• Chlorination and Melanoma

Drinking and swimming in chlorinated water can also cause malignant melanoma.^{41,42,43,44} Sodium hypochlorite, used in chlorination of water for swimming pools, is mutagenic⁴⁵ in the Ames test and other mutagenicity tests.^{46,47} Redheads and blonds are disproportionately melanoma-prone; their skin contains a relative excess of pheomelanins⁴⁸ compared to darker people.⁴⁹

Franz H. Rampen and his associates in The Netherlands state that the worldwide pollution of rivers and oceans and the chlorination of swimming pool water have promoted an increase in melanoma.^{50,51,52}

Another major factor in the increase in reported incidence of melanoma has been physicians' continually relaxing their standards for what constitutes melanoma.

• Synthetic Hormones and Melanoma

What about oral contraceptives and hormone replacement therapy (HRT)? Melanomas have increased sharply among women in the principal Pill-taking countries of Australia, America and in Europe. In the Walnut Creek (California) study, all the women who developed melanomas under the age of 40 had used the Pill. By 1981, the overall increased melanoma risk for Pill-users was statistically significant at three times.⁵³ The Pill also promotes development of heart attacks, in part by depleting body stores of vitamin B6.⁵⁴

Further, like breast cancer cells, those tumours have oestrogen receptors. And so women on HRT are more likely to develop melanomas than non-users. A recent study of 52,705 women on HRT found that the risk of breast cancer increases by 2.3 per cent for each of the 11 years the average woman takes HRT. The good news is that the effect diminishes on stopping it and disappears after about five years. The authors comment: "These findings should be considered in the context of the benefits and other risks associated with the use of HRT."⁵⁵ Others challenge the assumption that HRT provides benefits.^{56,57,58}

II. Ultraviolet Deprivation Health Effects

Certain effects of ultraviolet deprivation are equally remarkable and tie together with health benefits.

• FS Light & Childhood Health

In 1973, radiation-shielded full-spectrum (FS) lights were installed in five classrooms in Sarasota, Florida. And what happened? Several extremely hyperactive, learning-disabled children calmed down completely and learned to read. Absenteeism dropped. The children in four standard-lit rooms continued to misbehave (as tracked by concealed motion-detecting cameras); their learning disabilities and absenteeism were unabated.⁵⁹ And after a year, students in the full-spectrum classrooms had one-third

less tooth decay than those taught under standard lighting. Laboratory mice, which had been exposed all their waking hours to FS light, had zero tooth decay.⁶⁰ Similar findings were reported from California, Washington state and Alberta, Canada.⁶¹ A classroom comparison in Vermont found that full-spectrum lighting strengthened immunity.^{62,63}

Why was there so much less tooth decay after exposure to full-spectrum light, including trace UV? And why did immunity improve under FS lights? According to Dr Ott: "Every nutritional substance and medicine has a specific wavelength absorption. If those wavelengths are missing in the artificial light source a person is exposed to, then the nutritional or other hoped-for benefits of the substance will not be utilised."^{63a} UV functions as a nutrient and as a co-factor (a substance required for a bodily process to occur) in the utilisation of other nutrients.

So the full-spectrum lights corrected the children's deficiency of vitamin D3 (not the same as the toxic form of vitamin D added to milk), now considered a pro-hormone. This enabled more complete calcium absorption—and lowers the risk of osteoporosis and hip fractures in later life. Recent research has found that nearly half the people of all age groups taking RDA-strength supplements have too little vitamin D. When the body doesn't have

Dr Ott also found that the light from fluorescent tubes, as well as TV sets and computer terminals, causes red blood cells to clump together after prolonged exposure.

enough of it to absorb adequate calcium from food, it extracts calcium from bone.⁶⁴

FS light also strengthens immunity in other ways. It helps protect against multiple sclerosis, heart attacks and conversion of HIV to AIDS, among other things. These are elaborated and fully referenced in the remainder of the paper [see NEXUS website]. "Protect ourselves from ultraviolet whenever we can see our shadow," as the EPA frighteningly warns? Won't doing that then constitute a full-employment plan for dentists, orthopaedic surgeons and oncologists as well as pharmaceutical drug companies?

• FS Light vs Cancers

Cancers hate full-spectrum light. A tumour-susceptible strain of mice lived more than twice as long under full-spectrum as under standard lighting, and rats exposed to full-spectrum light had significantly lessened tumour development.⁶⁵ The tunnel-visioned National Cancer Institute and American Cancer Society ignore these findings, which six major medical centres have confirmed.⁶⁶

Terminal cancer patients, who Dr Ott knew of personally, got well in a rocking chair in the sunshine. Dr Jane Wright, directing cancer research at Bellevue Memorial Medical Center in New York City in 1959, was fascinated by Ott's ideas. So she instructed progressive-tumour patients to avoid artificial lights and stay outdoors as much as possible that summer. They were not to wear sunglasses or prescription lenses, which block UV light. By that fall, the tumours in 14 of 15 had not grown, and some patients had got better; the one whose condition deteriorated sat outdoors but wore prescription lenses. Ott has been criticised for making no scientifically controlled human studies. Well, funding for continuation of that study was withdrawn—that was his experience over and over.⁶⁷

One woman with cancer ventured out with Norwegian fishermen, ate a lot of their catch and recovered; friends ate fish but stayed inside—and their cancers killed them.⁶⁸ Had she "protected" herself from UV when she could see her shadow, as the EPA advises, would her cancer have ended? And if sun-loving Arizonans threw away their sunscreens and sunglasses and limited their sun exposure to about 30 minutes a day,^{69,70} wouldn't their cancers largely disappear?

A Chicago-area elementary school suddenly reported five times the national average incidence of leukaemia, a kind of cancer of the blood. All of the afflicted children but one were being taught in rooms where teachers kept the blinds drawn, and the children were exposed all day only to melanoma-promoting fluorescent light. When even the amount of UV that can get through window glass was let in, the leukaemia cluster disappeared.⁷¹ (Raymond Peat, PhD, thinks FS sunlight is best received through glass.⁷²)

• FS Light vs Arthritis and Blindness

Early in his research career, Dr Ott fell and broke his glasses; soon, his arthritis disappeared. And in 1996, Marion Patricia Connolly, executive director of Price-Pottenger Nutrition Foundation (PPNF), had much the same experience. Full-spectrum eyeglasses, i.e., lenses that transmit all ultraviolet light, are difficult to find. I take off my glasses outdoors whenever I can.

Exposed to full-spectrum light, a father rat is docile and even helpful after his babies are born. But when the same rat pair is

moved under standard light, before the birth of the next litter the male must be removed to prevent aggressiveness and cannibalism. Moved back to natural light for still another litter, he is gentle again.⁷³ Although human fathers aren't likely to eat their babies, do we really want more domestic aggressiveness?

Alternating full-spectrum light and total dark cured children born blind as a result of brain injury. The technique was advocated by W. H. Bates about 1904 and endorsed by Aldous Huxley in 1930. Efficacy was confirmed in the recent Annual Report from the British Institute for Brain Injured Children.⁷⁴

How can all this be explained? Full-spectrum light, entering the eyes during waking hours, promotes night-time pineal gland secretion of melatonin. This sleep-promoting antioxidant destroys carcinogenic hydroxyl radicals—and also slows ageing.^{75,76} Melatonin can suppress growth of human breast cancer cells *in vitro* (in a test tube), and can cross all barriers to enter every cell.^{77,78} So enough sleep—best achieved in total darkness⁷⁹—becomes anti-ageing, antioxidant, anti-cancer, anti-heart attack therapy!

Except in short-term emergencies, people younger than about

50 should use supplements of melatonin cautiously, if at all.⁸⁰ For people over 40 to 45, one to three milligrams before bedtime safely promotes both prompt falling asleep and a good night's rest, in addition to its other benefits.⁸¹

In a laboratory, viruses are weakened by exposure to full-spectrum light that includes traces of UV. Infectious organisms such as *E. coli* K12 AB2480, which can cause food poisoning, dislike ultraviolet too.⁸² The Morris Center in Winnipeg, Canada, promotes "amazing" healing by shining

full-spectrum light onto wounds.⁸³

• FS Light vs Seasonal Affective Disorder

The power of full-spectrum light against SAD (seasonal depression)—again, by entering the eyes—has been amply demonstrated. FS light benefits nonseasonal depression, too,⁸⁴ but not as much.⁸⁵ Such light energises and regulates the body's entire chemistry. Won't "protecting" millions of people from UV, as the EPA advocates, then worsen the growing epidemic of depression?

Dietary sufficiency of vitamin D also needs consideration here. "Seasonal affective disorder has been treated successfully with vitamin D. In a recent study covering 30 days of treatment comparing vitamin D supplementation with two-hour daily use of light boxes, depression completely resolved in the D group but not in the light-box group."⁸⁷

The cells in the retinas of your eyes will not divide and regenerate without a small amount of ultraviolet light. And so full-spectrum light reduces the risk of retinal degeneration, the leading cause of blindness among the elderly.⁸⁸ Retinal haemorrhage, the most severe phase of the condition, can also result from long-term use of aspirin.⁸⁹ (A prominent ophthalmologist declared the outcome "unlikely"; however, an exhaustive computer literature search by Kirk Hamilton, PA-C, publisher of *Clinical Pearls News*, found no refutation of the finding.) White willow bark provides the same benefits as aspirin without stomach irritation or blindness, as do three glasses daily of purple grape juice. And

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unlike aspirin,⁹⁰ the flavonoids in purple grape juice remain effective when adrenaline levels rise.⁹¹ Two 400-milligram capsules of white willow bark are equivalent to one baby aspirin.⁹² Eating a lot of dark-green leafy vegetables such as spinach,⁹³ kale and Brussels sprouts also helps avoid this condition.^{94, 95}

Many dermatologists advise older patients to stay out of the sun to avoid skin cancer. The thousands of elderly patients rotting in nursing homes come to mind. That advice may unintentionally help to make patients sicker and older beyond their years. *Staying indoors will cause problems a lot worse than skin cancer.* Older people's bones will crumble and break (osteoporosis); these elderly patients will hate living (depression). Articles in the journals *Cancer*, *Cancer Research* and *Preventive Medicine* suggest that avoiding sunlight could promote the development of cancers other than those of the skin.^{96, 97, 98}

• FS Light vs Neurological Diseases

Research by Reuven Sandyk, MD, who practises medicine in Connecticut, shows

that long-term deprivation from sunlight exposure increases the risk of multiple sclerosis and Parkinson's disease through depressed secretion of the hormone melatonin by the brain's pineal gland. This appears to explain the south-north gradient in the incidence of MS: the farther from the equator, the more common it is.⁹⁹ All the MS patients he tested had extremely low melatonin levels and their pineal glands were calcified, or hardened.

Reduction in melatonin secretion, he found, may be associated with zinc deficiency in ADHD (attention deficit hyperactivity disorder).¹⁰⁰ "Since melatonin stimulates serotonin synthesis,¹⁰¹ and serotonin deficiency has been linked to aggressive behaviour,¹⁰² it is possible that a high prevalence of conduct disorder and aggressive behaviour in ADHD patients could be related to reduced melatonin and serotonin associated with (but not caused by) zinc deficiency."¹⁰³

Dr Sandyk applies extremely weak alternating-current fields to the brain; this stimulates melatonin secretion, bringing about remarkable subjective and objective improvement of MS and Parkinson's patients within one to two *minutes*. The

magnetic field he uses is at 2 to 7 hertz (vibrations per second), a physiological frequency, i.e., near the rate used by brain neurotransmitters.

Melatonin destroys carcinogenic hydroxyl radicals by neutralising their precursor molecules, and so it should help against Parkinson's and Alzheimer's diseases.¹⁰⁴ Melatonin interferes with oestrogen receptor sites on cells; excessive oestrogen from the Pill and from HRT causes breast cells to hyperproliferate (become cancerous), and melatonin blocks this action.¹⁰⁵ It also slows senescence.¹⁰⁶ The decline in its levels in everyone's bodies owing to longer daily exposure to light has been suggested as one possible factor explaining the continual spread of cancer in the 20th century.^{107, 108} Some of Dr Sandyk's patients with Alzheimer's disease, migraine and pain syndromes also benefit from exposure to such magnetic fields—suggesting that sunlight deprivation may contribute to the aetiology of those distressing illnesses.¹⁰⁹

• FS Light vs CHD and Infections

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Staying completely out of the sun may also increase the risk of heart attacks and much more by another route. David Grimes, MD, at Blackburn Royal Infirmary in Blackburn, UK, notes that heart attacks are commonest in the parts of the world—such as northwest United Kingdom—that have the least sunshine. And Asian populations in the British Isles have a particularly high risk of death from heart attack that cannot be explained on dietary grounds. Having come from countries in which the sun is so strong that exposure must be minimised, they have a cultural tendency to avoid the sun.

Dr Grimes traces causation of many cases of CHD (coronary heart disease) to the microbe *Chlamydia pneumoniae* and low immunocompetence from too low a level of vitamin D among those avoiding sunshine. Sunlight could determine whether squalene, the precursor to both vitamin D and cholesterol, converts into vitamin D (in the presence of enough sunshine) or into excessive cholesterol (if sunlight is deficient.)¹¹⁰ A deficiency of vitamin B6 promotes infection, e.g. by *H. pylori* and

Chlamydia, as one of its mechanisms of increasing risk of heart attack.^{111, 112}

Dr Grimes links respiratory infections and chronic bronchitis, called "the English Disease", to poor immunocompetence due to sunlight deficiency, worsened by cigarette smoking. (In southern Europe, smoking rates are much higher, but recurrent respiratory tract infections are scarce.) Glasgow, Scotland, has high rates of osteomalacia and rickets, which he says are definitely the result of sunlight deficiency. Dr F. A. Spencer has noted a higher incidence of heart attacks in winter; he has related this to low levels of vitamin D and to depression from the winter months.¹¹³

Also, Crohn's disease (regional enteritis or intestinal irritation) is much more common in cloudy northwest England than in sunny southern Europe—that is, if we accept that Crohn's is a microbial disease, as current research confirms, probably due to *Mycobacterium paratuberculosis*. Once again, sunlight in the Mediterranean area could be protective through immunoenhancement.¹¹⁴

There are other risks. An Alabama researcher found that lack of enough sunshine exposure may increase the risk of

hypertension in blacks and other dark-skinned people. Those with greater amounts of pigment in the skin require six times the amount of ultraviolet B (UVB) light to produce the same amount of vitamin D3 found in lighter-skinned people.¹¹⁵ And Dr Esther John of Northern California Cancer Center reported that daily exposure to sunshine, without sunscreen, appears to lessen the risk of breast cancer.¹¹⁶

About the Author:

Joseph G. Hattersley in 1953 completed everything then required for a PhD degree in economics, except a dissertation, at the University of California at Berkeley. In 1976, at age 54, a seeming nutritional miracle launched his career of writing on a wide range of health topics. Joe seeks to integrate differing views on a subject from competing research teams. Several of his proposals have been confirmed three to five years later in mainstream medical and scientific journals. His special interests are prevention of heart disease and cot death. His article, "Soybean Products: A Recipe for Disaster", was published in NEXUS 4/03, April–May 1997 issue.

Editor's Note:

The complete text of this article, together with endnotes, is posted at the NEXUS website, www.nexusmagazine.com.